

10/777141

Set	Items	Description
S1	0	"TRAVEL DISTANCE" AND GPS? AND (ALARM? OR WA
S2	0	"TRAVEL DISTANCE" AND GPS? AND (ALARM? OR WA
S3	0	(TRAVEL? (3N) DISTANCE) AND GPS? AND (ALARM?
S4	64	(TRAVEL? (3N) DISTANCE) AND GPS?
S5	0	(TRAVEL? (3N) DISTANCE) AND GPS? AND EXCEED?
S6	0	(COMPUT? (S) (TRAVEL? (3N) DISTANCE)) AND GP
S7	11	(COMPUT? (S) (TRAVEL? (3N) DISTANCE)) AND GP
S8	9	RD (unique items)
?		

10/777 141

Refine Search

Your wildcard search against 10000 terms has yielded the results below.

Your result set for the last L# is incomplete.

The probable cause is use of unlimited truncation. Revise your search strategy to use limited truncation.

Search Results -

Terms	Documents
L6 and ((no or "not") adj2 position\$)	9

Database:

US Pre-Grant Publication Full-Text Database
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EPO Abstracts Database
JPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

Search:

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Search History

DATE: Tuesday, October 24, 2006 [Purge Queries](#) [Printable Copy](#) [Create Case](#)

Set
Name Query
side by
side

Hit
Count
Set
Name
result set

DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; THES=ASSIGNEE; PLUR=YES;
OP=OR

<u>L8</u>	L6 and ((no or "not") adj2 position\$)	9	<u>L8</u>
<u>L7</u>	L4 and ((no or "not") adj3 position\$)	1247	<u>L7</u>
<u>L6</u>	L4 and (445/\$.ccls. or 701/208.ccls.)	122	<u>L6</u>
<u>L5</u>	L4 and (445/\$.ccls. or 701/\$.ccls.)	920	<u>L5</u>
<u>L4</u>	((no or "not") with position\$) and (travel\$ near3 distance) and @ad<=20030214	11049	<u>L4</u>

DB=PGPB; THES=ASSIGNEE; PLUR=YES; OP=OR

<u>L3</u>	L1 and deform\$	1	<u>L3</u>
<u>L2</u>	L1 and deform	0	<u>L2</u>

END OF SEARCH HISTORY

Hit List

First Hit

Your wildcard search against 10000 terms has yielded the results below.

Your result set for the last L# is incomplete.

The probable cause is use of unlimited truncation. Revise your search strategy to use limited truncation.

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Fwd Refs

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Search Results - Record(s) 1 through 9 of 9 returned.

☐ 1. Document ID: US 6810325 B2

L8: Entry 1 of 9

File: USPT

Oct 26, 2004

US-PAT-NO: 6810325

DOCUMENT-IDENTIFIER: US 6810325 B2

TITLE: Position locating system, server, position locating method, and program

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	FIGS	Drawings
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☐ 2. Document ID: US 6645029 B2

L8: Entry 2 of 9

File: USPT

Nov 11, 2003

US-PAT-NO: 6645029

DOCUMENT-IDENTIFIER: US 6645029 B2

**** See image for Certificate of Correction ****

TITLE: Color filter producing method and apparatus

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	FIGS	Drawings
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☐ 3. Document ID: US 6498983 B2

L8: Entry 3 of 9

File: USPT

Dec 24, 2002

US-PAT-NO: 6498983

DOCUMENT-IDENTIFIER: US 6498983 B2

TITLE: Navigation apparatus, navigation method and information recording medium containing navigation program readable by computer

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	FIGS	Drawings
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☐ 4. Document ID: US 6385540 B1

US-PAT-NO: 6385540

DOCUMENT-IDENTIFIER: US 6385540 B1

TITLE: Method for detecting road position of car in multiinformation road

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	FIGS	Draw D.
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☐ 5. Document ID: US 6192312 B1

L8: Entry 5 of 9

File: USPT

Feb 20, 2001

US-PAT-NO: 6192312

DOCUMENT-IDENTIFIER: US 6192312 B1

TITLE: Position determining program and method

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	FIGS	Draw D.
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☐ 6. Document ID: US 6151552 A

L8: Entry 6 of 9

File: USPT

Nov 21, 2000

US-PAT-NO: 6151552

DOCUMENT-IDENTIFIER: US 6151552 A

TITLE: Route guidance apparatus

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	FIGS	Draw D.
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☐ 7. Document ID: US 6070122 A

L8: Entry 7 of 9

File: USPT

May 30, 2000

US-PAT-NO: 6070122

DOCUMENT-IDENTIFIER: US 6070122 A

**** See image for Certificate of Correction ****

TITLE: Vehicle navigation with priority target display

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	FIGS	Draw D.
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☐ 8. Document ID: US 5948043 A

L8: Entry 8 of 9

File: USPT

Sep 7, 1999

US-PAT-NO: 5948043

DOCUMENT-IDENTIFIER: US 5948043 A

TITLE: Navigation system using GPS data

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	FIGS	Drawings
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☐ 9. Document ID: US 5067082 A

L8: Entry 9 of 9

File: USPT

Nov 19, 1991

US-PAT-NO: 5067082

DOCUMENT-IDENTIFIER: US 5067082 A

**** See image for Certificate of Correction ****

TITLE: Navigation apparatus

Full	Title	Citation	Front	Review	Classification	Date	Reference			Claims	FIGS	Drawings
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Clear	Generate Collection	Print	Fwd Refs	Bkwd Refs	Generate OACS
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Terms	Documents
L6 and ((no or "not") adj2 position\$)	9

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L8: Entry 1 of 9

File: USPT

Oct 26, 2004

DOCUMENT-IDENTIFIER: US 6810325 B2

TITLE: Position locating system, server, position locating method, and program

Application Filing Date (1):
20030128

Brief Summary Text (11):

However, if the position information transmission frequency is determined simply by the expiration of the time or the traveled distance, the number of pieces of position information that can be acquired varies depending on the move circumstances of the mobile unit or an excessive amount of position information is transmitted; this is a problem.

Brief Summary Text (14):

To solve the problem as in FIG. 13(c), setting of transmitting position information every predetermined traveled distance is considered to be effective, but also involves a problem. For example, with a client apparatus set so as to transmit position information every km of traveled distance, for example, if the mobile unit almost stops because of a traffic jam, position information is not transmitted over a long time and thus the server cannot acquire position information; if the mobile unit runs at extremely high speed on a freeway, etc., position information is frequently transmitted, thus resulting in waste of the communication cost.

Detailed Description Text (17):

FIG. 7 is a flowchart to show a flow for the client apparatus 1 (position information transmission frequency setting section 120) to determine the transmission timing in response to the move speed of the client apparatus 1. To save the transmission cost, the client apparatus of the embodiment once stores the position information acquired in a predetermined period from the GPS reception section 12 in the history data accumulation section 18 and after the expiration of a predetermined time or when the vehicle runs a predetermined distance traveled (namely, when the predetermined transmission timing is reached), the position information accumulated in the history data accumulation section 18 is transmitted in batch to the server 2.

Detailed Description Text (18):

To being with, the vehicle position information acquired from the GPS reception section 12 is recorded in the history data accumulation section 18 (step S201). Next, the system control section 10 determines the current run speed from the measurement value of the vehicle speed sensor (sensor section 13) (step S202). In the embodiment, the speed is classified into four types of high-speed driving (60 km/h or more), medium-speed driving (60 to 30 km/h), low-speed driving (30 to 10 km/h), and very low-speed driving (10 km/h or less) and the position information transmission frequency is changed according to the classification. The position information is transmitted every km of traveled distance (distance reference D1) at the high-speed driving, every 60 seconds of driving time (time reference T1) at the medium-speed driving, every 40 seconds (time reference T2) at the low-speed driving, and every 20 seconds (time reference T3) at the very low-speed driving.

Detailed Description Text (19):

However, the number of speed types, the speed range, and the traveled distance and the elapsed time as the reference are not fixed as the above and may be determined arbitrarily. To transmit data from the client apparatus 1 installed in the vehicle, a radio communication network of PHS, mobile telephone, etc., is used from the vehicle to the Internet connection point and thus the priorities of the cost taken for the communications, etc., and the position locating and estimation accuracy are taken into consideration to determine the transmission frequency.

Detailed Description Text (20):

After the run speed is determined (step S202), a branch is caused to the process step responsive to the speed. When the speed is 60 km/h or more, a branch is caused to the step of high-speed driving and the position information is transmitted every km of traveled distance. At step S203, the traveled distance is determined and if the traveled distance does not reach 1 km, the process proceeds to step S212. In this case, no information is transmitted and thus the process proceeds to step S214 for determining whether or not the vehicle runs at very low speed. In this case, the vehicle runs at high speed and thus the process returns to step S201 and the second piece of vehicle position information is recorded in the history data accumulation section 18. Accordingly, the initial (0 seconds) and second (after one second) pieces of vehicle position information are recorded in the history data accumulation section 18. A similar procedure is repeated for accumulating a plurality of pieces of vehicle position information. If it is determined at step S203 that the traveled distance reaches 1 km, the information accumulated in the history data accumulation section 18 is transmitted (step S204) At step S212, the transmission is complete and thus the process proceeds to step S213 and the data in the history data accumulation section 18 is cleared. Then, the process returns to step S201 and a similar procedure is repeated for transmitting information twice, three times.

Detailed Description Text (28):

At the search step (step S304), the history information accumulation section 24 of the server 2 may contain no current position information. This occurs, for example, when the vehicle enters a reception failure position where there is a possibility that reception of the position information from the client apparatus may stop dead, such as an underground parking lot, and it becomes impossible to acquire the position information from the client apparatus 1. In such a case, position estimation is performed at the search step. The position estimation is performed by the position estimation section 25 of the server 2.

Detailed Description Text (34):

If no reception failure position is acknowledged in the calculated estimated area, preferably the estimated area is set variably so as to gradually widen the area until a reception failure position is detected (for example, if the area is a circle, the radius is increased little by little). In contrast, if a large number of reception failure positions are acknowledged in the calculated estimated area, preferably the estimated area is set variably so as to gradually shrink the estimated area until the reception failure positions are reduced to an appropriate number of positions (for example, if the area is a circle, the radius is decreased little by little).

Current US Cross Reference Classification (10):

701/208

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L8: Entry 1 of 9

File: USPT

Oct 26, 2004

US-PAT-NO: 6810325

DOCUMENT-IDENTIFIER: US 6810325 B2

TITLE: Position locating system, server, position locating method, and program

DATE-ISSUED: October 26, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Amano; Kouji	Tokyo			JP
Nozaki; Takashi	Tokyo			JP

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE CODE
Pioneer Corporation	Tokyo			JP	03
Increment P Corporation	Tokyo			JP	03

APPL-NO: 10/352212 [\[PALM\]](#)

DATE FILED: January 28, 2003

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	P. 2002-021336	January 30, 2002
JP	P. 2002-021359	January 30, 2002

INT-CL-ISSUED: [07] G01C 21/30

INT-CL-CURRENT:

TYPE IPC DATE
CIPP [G08](#) [G 1/0962](#) 20060101

US-CL-ISSUED: 701/207; 701/208, 340/988, 340/989, 340/991, 340/993, 342/357.01, 342/357.09, 342/357.1, 455/456.1, 455/456.6

US-CL-CURRENT: [701/207](#); [340/988](#), [340/989](#), [340/991](#), [340/993](#), [342/357.01](#), [342/357.09](#), [342/357.1](#), [455/456.1](#), [455/456.6](#), [701/208](#)

FIELD-OF-CLASSIFICATION-SEARCH: 340/988-993, 701/207-213, 455/456.1, 455/456.2, 455/456.3, 455/456.5, 455/456.6, 455/457, 455/517, 455/421, 342/257.01, 342/357.06, 342/357.07, 342/357.09, 342/357.13

See application file for complete search history.

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

[Search Selected](#)[Search ALL](#)[Clear](#)

	PAT-NO	ISSUE-DATE	PATENTEE-NAME	US-CL
<input type="checkbox"/>	5742509	April 1998	Goldberg et al.	701/211
<input type="checkbox"/>	6131067	October 2000	Girerd et al.	701/213
<input type="checkbox"/>	6377210	April 2002	Moore	342/357.13
<input type="checkbox"/>	6510381	January 2003	Grounds et al.	701/207
<input type="checkbox"/>	6532417	March 2003	Hatano	701/207
<input type="checkbox"/>	6615134	September 2003	Ando	701/209
<input type="checkbox"/>	2001/0005809	June 2001	Ito	701/210
<input type="checkbox"/>	2002/0086681	July 2002	Gilham et al.	455/456
<input type="checkbox"/>	2002/0103781	August 2002	Mori et al.	707/1
<input type="checkbox"/>	2002/0158778	October 2002	Flick	340/988
<input type="checkbox"/>	2002/0174360	November 2002	Ikeda	713/200

FOREIGN PATENT DOCUMENTS

FOREIGN-PAT-NO	PUBN-DATE	COUNTRY	CLASS
1 132 881	September 2001	EP	
1 152 219	November 2001	EP	
10-032866	February 1998	JP	
10-081205	March 1998	JP	
11-230763	August 1999	JP	
11-268615	October 1999	JP	
2001-010448	January 2001	JP	

ART-UNIT: 3661

PRIMARY-EXAMINER: Louis-Jacques; Jacques H.

ATTY-AGENT-FIRM: Morgan, Lewis & Bockius, LLP

ABSTRACT:

A server includes a position estimation section for estimating the current position of a client apparatus based on the already acquired position information when the server cannot acquire position information from the client apparatus and the server requests the client apparatus to transmit position information in response to a search instruction from an information terminal.

18 Claims, 15 Drawing figures

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